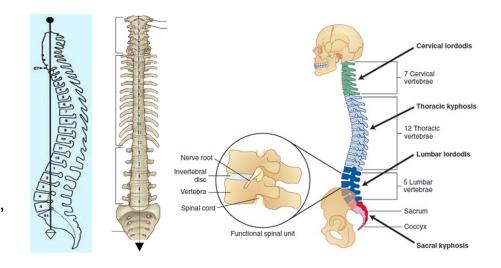
WHAT IS THE SPINE?

The spine, also known as the backbone or spinal column, is one of the most important parts of the human body. It acts as the main support structure for your body, allowing you to stand, move, and bend. The spine also protects the **spinal cord**, a vital part of the nervous system that controls movement and sensation.

The Role of the Spine

- 1. **Providing Structure:** The spine supports your head, neck, and torso, helping you stand upright.
- 2. **Allowing Movement:** It enables bending, twisting, and other movements of the body.
- 3. **Protecting the Spinal Cord:** The vertebrae (bones of the spine) encase and protect the spinal cord, which is responsible for sending signals between the brain and the rest of the body.
- 4. **Absorbing Shock:** The spine acts as a shock absorber, preventing damage to the spinal cord from impacts or movements.



Parts of the Spine

The spine is made up of **33 vertebrae** arranged in different sections.

Cervical Spine (Neck Area)

The **cervical spine** refers to the portion of the spine located in the neck. It is the **topmost section** of the spine and plays a crucial role in supporting the head, allowing movement, and protecting the spinal cord. The cervical spine consists of **seven vertebrae** (bones) labeled C1 to C7, stacked one on top of the other.

The Role of the Cervical Spine

- **Support**: The cervical spine supports the weight of the head, which typically weighs between 10-12 pounds (about 4-5 kg)
- Movement: It allows for the movement of your head, such as turning it from side to side, tilting it, and nodding up and down.
- **Protection:** The cervical spine protects the spinal cord, which carries signals between the brain and the rest of the body.
- **Nerve Pathways:** Nerves that control the muscles and sensations in the arms, shoulders, and neck pass through the cervical spine.

Components of the Cervical Spine

- 1. **Vertebrae:** These are the bones that form the backbone. The cervical vertebrae are numbered from C1 to C7, starting from the top near the skull.
 - o C1 (Atlas): The first cervical vertebra, which supports the skull and allows the head to nod up and down.
 - o C2 (Axis): The second cervical vertebra, which allows the head to rotate from side to side.
 - o **C3-C7:** These vertebrae provide support and allow flexibility and movement.
- 2. **Intervertebral Discs:** These soft, rubbery cushions sit between the vertebrae and act as shock absorbers to prevent the bones from rubbing together.
- 3. **Spinal Cord:** The spinal cord is a bundle of nerves running through the vertebrae. It transmits information from the brain to the rest of the body.

4. **Nerves:** The cervical spine contains nerves that branch out from the spinal cord to control the muscles in the neck, shoulders, arms, and hands.

How to Maintain a Healthy Cervical Spine

- 1. Good Posture: Keep your head aligned with your spine to avoid unnecessary strain on your neck.
- 2. Exercise Regularly: Strengthen the muscles around your neck to improve flexibility and support.
- 3. Avoid Poor Sleep Positions: Use a supportive pillow to keep your neck aligned while sleeping.
- 4. Limit Heavy Lifting: When lifting objects, use proper techniques to protect your neck.
- 5. **Take Breaks from Screen Time:** If you work on computers or look down at phones often, take breaks to stretch and move your neck.

Thoracic Spine (Upper and Mid-Back)

The **thoracic spine** is the part of the spine that makes up the **upper and middle back**. It is located between the **cervical spine** (neck) and the **lumbar spine** (lower back). The thoracic spine consists of **12 vertebrae**, labeled **T1 to T12**, and it is responsible for supporting the upper body and protecting important organs like the lungs and heart.

Key Features of the Thoracic Spine

1. Vertebrae:

- The thoracic spine is made up of 12 vertebrae (T1 to T12). These vertebrae are larger than the ones in the neck but smaller than those in the lower back.
- Each vertebra is stacked on top of the other and separated by intervertebral discs, which act as shock absorbers.

2. Rib Attachments:

- The thoracic vertebrae are unique because ribs attach to them. Each of the first 10 thoracic vertebrae has a pair of ribs connected to them. This helps to protect the organs in the chest, like the heart and lungs.
- The ribs give the thoracic spine its stability and prevent excessive movement, which is important for protecting vital organs.

3. Curvature:

 The thoracic spine has a natural outward curve, known as kyphosis. This curve is important for maintaining balance and absorbing shock as you move.

4. Spinal Cord and Nerves:

The spinal cord runs through the center of the vertebrae, and nerves branch out from the spinal cord through spaces between the vertebrae. These nerves control sensation and movement in the chest, abdomen, and parts of the back.

Functions of the Thoracic Spine

1. Support for Upper Body:

o The thoracic spine helps support the **upper body**, including the shoulders, ribs, and arms.

2. Protection of Vital Organs:

o It **protects the heart, lungs, and other chest organs** by providing a stable structure for the rib cage.

3. Facilitates Breathing:

 The rib attachments to the thoracic spine allow the chest to expand and contract, which is essential for breathing.

4. Movement and Flexibility:

While the thoracic spine is more rigid than the neck or lower back, it still allows for limited rotation, flexion, and extension (bending backward or forward). This helps with movements like twisting and bending.

LUMBAR SPINE (LOWER BACK)

The **lumbar spine** refers to the lower portion of your spine, located between your rib cage and pelvis. It consists of five vertebrae, labeled **L1 to L5**, and is an essential part of your body, supporting much of your upper body weight and enabling movement. The lumbar spine is crucial for functions like bending, lifting, twisting, and walking.

PARTS OF THE LUMBAR SPINE

1. Vertebrae

The lumbar spine is made up of five vertebrae (L1-L5), which are the bones that form the spinal column. These vertebrae:

- Provide structure and support for the body.
- Protect the spinal cord and nerves that travel from the brain to the rest of the body.
- Are large and sturdy to support the weight of the upper body.

2. Intervertebral Discs

Between each vertebra is a cushion-like structure called an **intervertebral disc**. These discs are made of a soft, gellike center called the **nucleus pulposus**, surrounded by a tough, fibrous outer layer known as the **annulus fibrosus**. The discs:

- Act as shock absorbers to reduce the impact on the spine while walking, running, or lifting.
- Allow for movement and flexibility between the vertebrae.
- Can sometimes become damaged, leading to conditions like a herniated disc.

3. Facet Joints

The lumbar vertebrae are connected by **facet joints** on each side. These small joints:

- Allow controlled movement in the spine, like bending forward, backward, or twisting.
- Help maintain stability in the lower back.
- Can become worn or inflamed over time, leading to conditions like osteoarthritis or facet joint syndrome.

4. Spinal Nerves

The lumbar spine houses the **spinal nerves** that branch out from the spinal cord to different parts of the body. These nerves control **movement** and **sensation** in the lower back, hips, legs, and feet. Any pressure or damage to the nerves, such as from a herniated disc or spinal stenosis, can cause symptoms like pain, numbness, or weakness in the legs.

5. Spinal Canal

The **spinal canal** is the space within the vertebrae that houses the **spinal cord** and nerves. As the spinal cord travels down from the brain, it passes through the spinal canal. The lumbar spinal canal is larger and more open than other parts of the spine, but can narrow due to conditions like **spinal stenosis**, leading to nerve compression and pain.

6. Ligaments and Muscles

The lumbar spine is supported by **ligaments** and **muscles** that keep the spine stable and allow for movement. These structures:

- Ligaments are strong bands of tissue that connect bones to each other, providing support.
- **Muscles** help with **movement** and **stability** of the lower back. Weak or tight muscles can lead to discomfort and pain.

Functions of the Lumbar Spine

The lumbar spine plays a crucial role in your daily life by:

- Supporting the weight of your upper body, especially when standing, sitting, or lifting.
- Allowing movement like bending, twisting, and stretching.
- Protecting the spinal cord and nerves that control function in your legs and lower body.
- Providing stability during activities such as walking, running, or lifting heavy objects.

How to Keep Your Lumbar Spine Healthy

To maintain a healthy lumbar spine and avoid common issues, consider these tips:

- Exercise Regularly: Strengthening the muscles around your spine helps prevent injuries.
- Maintain Good Posture: Avoid slouching or sitting for long periods.
- Lift Properly: Always bend your knees, not your back, when lifting heavy objects.
- Stay Active: Walking, swimming, or other low-impact activities can keep your spine healthy.
- Stretching: Regular stretching helps maintain flexibility and reduces tension in the lower back muscles.

Sacral Spine (Pelvic Area)

Welcome to the Spine Care Section of Dr. Shankar Acharya's website. Dr. Acharya is a senior consultant spine surgeon with over 30 years of experience, dedicated to helping patients from all walks of life—whether in urban cities or rural areas—understand and manage their spine health. Today, let's take a closer look at the **Sacral Spine**, an important part of the human spine located in the pelvic region.

What is the Sacral Spine?

The **sacral spine** is the lower part of the spine, located at the base of the spine, above the tailbone and below the lumbar (lower back) region. This part of the spine consists of five vertebrae fused together to form a triangular-shaped structure called the **sacrum**. The sacrum is an essential part of the spine because it connects the spine to the **pelvic bones**, forming the **pelvic girdle**.

Key Features of the Sacral Spine

1. Sacrum (S1 to S5 Vertebrae):

- The sacrum is made up of five vertebrae (S1-S5), which are fused into one solid bone.
- o It forms the back portion of the pelvis and connects the spine to the hips.
- The sacrum helps in bearing weight and transferring the load from the upper body to the legs.

2. Pelvic Girdle Connection:

The sacrum connects to the iliac bones (part of the pelvic bones), forming the sacroiliac joints. These joints allow slight movement, providing flexibility and shock absorption for walking and other movements.

3. Coccyx (Tailbone):

The sacrum is just above the coccyx, or tailbone, which is made up of 3-5 small, fused bones. The coccyx is the end of the spine and plays a role in sitting and providing support for the body.

Functions of the Sacral Spine

- **Weight Bearing:** The sacrum supports much of the upper body's weight and helps distribute this load to the lower body, particularly the hips and legs.
- Movement and Flexibility: The sacrum provides limited but necessary movement for walking and sitting.

• **Nerve Passage:** The sacral spine contains openings (foramina) where nerves pass through to control movements and sensations in the lower limbs, hips, and pelvic area.

Common Problems and Conditions of the Sacral Spine

1. Sacralization of the Lumbar Spine:

This condition occurs when the sacrum is abnormally fused with the lower lumbar vertebrae, leading to stiffness or discomfort in the lower back.

2. Sacroiliac Joint Dysfunction:

Inflammation or misalignment of the sacroiliac joint can cause lower back pain, especially around the pelvic region.

3. Coccyx Pain (Coccydynia):

Pain in the tailbone area can be caused by injury, prolonged sitting, or conditions affecting the sacrum and coccyx.

4. Fractures and Trauma:

A fall or trauma can cause fractures in the sacral region, leading to significant pain and difficulty in movement.

5. Infections or Tumors:

Rarely, infections or tumors can affect the sacral area, requiring treatment and intervention.

Treatment for Sacral Spine Conditions

1. Non-Surgical Treatment:

- Physical Therapy: Exercises can improve posture, strengthen muscles, and reduce pain.
- Medications: Anti-inflammatory drugs (NSAIDs) and pain relievers help manage discomfort.
- Heat or Ice Therapy: Applying heat or cold can provide relief from pain and inflammation.

Injections: Corticosteroid injections may be used to reduce inflammation in the sacroiliac joints.

2. Surgical Treatment:

If conservative treatments fail, surgery may be required. Options include:

- Sacroiliac Joint Fusion: If there is instability or significant pain in the sacroiliac joint, surgery may be needed to fuse the joint.
- Spinal Fusion or Decompression: In cases of fractures or nerve compression, fusion or decompression surgery can help relieve pressure on nerves.

Why Choose Dr. Shankar Acharya for Sacral Spine Care?

- **Experience and Expertise:** With over 30 years of experience, Dr. Acharya is highly skilled in treating a wide range of spine conditions, including issues affecting the sacral spine.
- **Advanced Techniques:** Dr. Acharya uses the latest surgical and non-surgical methods to treat sacral spine conditions, ensuring the best outcomes.
- **Holistic Approach:** Dr. Acharya believes in a comprehensive, patient-centered approach, offering personalized treatment plans for every individual.

Frequently Asked Questions (FAQs)

1. How do I know if my sacral spine is causing my pain?

Pain in the lower back, hips, or pelvic region, especially when sitting for long periods or during movement, may indicate an issue with the sacral spine. It's best to consult Dr. Acharya for a thorough evaluation and diagnosis.

2. Is surgery always necessary for sacral spine issues?

Not necessarily. Most conditions affecting the sacral spine can be managed with physical therapy, medications, and lifestyle changes. Surgery is usually considered when conservative treatments don't provide relief.

3. Can sacral spine problems be prevented?

Maintaining good posture, regular physical activity, and avoiding heavy lifting can help prevent strain on the sacral spine. It's also important to stay active and avoid prolonged periods of sitting.

4. Can I live with sacral spine problems?

Many people can manage sacral spine issues effectively with the right treatment plan. Dr. Acharya will guide you on how to live comfortably with the condition.

Take care of your spine—no matter where you live. Let Dr. Shankar Acharya help you maintain a healthy, pain-free back.

Coccygeal Spine (Tailbone)

Welcome to Sir Gangaram Hospital's Spine Care Department, where **Dr. Shankar Acharya**, a highly experienced spine surgeon with over 30 years of expertise, provides top-quality care to both urban and rural patients. We aim to make spine health accessible, easy to understand, and straightforward for everyone. In this article, we will talk about the **Coccygeal Spine**, commonly known as the **tailbone**, its function, and how to take care of it.

What is the Coccygeal Spine (Tailbone)?

The coccygeal spine, or **tailbone**, is the very bottom part of your spine. It is made up of **3 to 5 small bones** called **coccygeal vertebrae** that are fused (joined together) as we grow older. The tailbone is located just below the sacrum, which is the triangular bone at the base of your spine, and it connects to the pelvic bones.

Function of the Coccyx (Tailbone)

The coccyx may seem small and unimportant, but it plays an essential role in the function of your spine and overall body:

- Support: It helps support the weight of the body when sitting.
- Attachment Point for Muscles and Ligaments: Several muscles and ligaments that control movement and provide stability to the lower spine are attached to the tailbone.
- Balance and Posture: The coccyx aids in maintaining proper posture while sitting and helps balance the body.

Common Issues Related to the Coccyx

While the coccyx is a small part of the body, it can still cause significant discomfort if something goes wrong. Some common issues include:

1. Coccygodynia (Tailbone Pain):

This is the medical term for pain in the coccyx, which can occur from prolonged sitting on hard surfaces, trauma (like a fall), or childbirth. The pain can be sharp or aching and may worsen when sitting or standing up.

2. Coccyx Fractures or Dislocations:

A fall, especially onto a hard surface, can cause the coccyx to fracture or move out of place. This is more common in people who participate in high-impact activities.

3. Infections or Tumors:

Though rare, infections or tumors may affect the coccyx and cause pain, swelling, or other symptoms.

How to Care for the Coccyx

Taking care of the coccyx is essential for maintaining comfort and preventing pain. Here are some tips to help you protect your tailbone:

- **Use Cushioned Seats:** When sitting for long periods, use a cushion or donut-shaped pillow to reduce pressure on the tailbone.
- **Practice Good Posture:** Sitting with a straight back and good posture can prevent unnecessary stress on your tailbone.
- Avoid Long Periods of Sitting: Stand up and move around regularly if you must sit for long periods.
- **Exercise and Stretch:** Strengthening and stretching your lower back and core muscles can help keep the coccyx and surrounding areas healthy.
- Wear Proper Footwear: Good shoes can support your posture and prevent strain on your tailbone while standing or walking.

Treatment for Tailbone Pain

If you experience pain in the coccyx, it's important to get the right treatment. Here are some treatment options:

1. Conservative Treatments:

- Ice or Heat Therapy: Applying an ice pack or heating pad to the tailbone can help reduce pain and swelling.
- o Pain Medications: Over-the-counter pain relievers like ibuprofen or acetaminophen can ease discomfort.
- o **Physical Therapy:** A physical therapist can teach you exercises to relieve pain and improve flexibility.

2. Medical Interventions:

If pain persists, your doctor may recommend:

- o Coccygeal Injections: Steroid injections can help reduce inflammation and pain in the tailbone area.
- Surgery: In rare cases, if other treatments fail, a surgical procedure called coccygectomy may be performed to remove the coccyx.

When to See a Doctor

If you experience any of the following, it's important to seek medical attention:

- Severe pain that doesn't improve with self-care.
- Pain after an injury (such as a fall or trauma).
- Swelling, redness, or bruising around the tailbone.
- Difficulty sitting or standing up due to pain.

Why Choose Dr. Shankar Acharya for Spine Care?

Dr. Shankar Acharya is an expert in diagnosing and treating spine-related conditions. With **30 years of experience**, he provides personalized care for patients suffering from tailbone pain or other spine issues. Dr. Acharya uses the latest technology and techniques to offer the best treatment options and ensure a faster recovery.

Contact Us

If you are experiencing pain in your tailbone or have any concerns about your spine, don't hesitate to reach out to **Dr. Shankar Acharya** at **Sir Gangaram Hospital**. Our team is dedicated to providing the best care to help you lead a pain-free life.

Sir Gangaram Hospital Address: Room No. G-1, Ground Floor, Ortho Department, Old Rajender Nagar,

New Delhi – 110060, India

Phone: +91-11-25750000, +91-11-42254000

Email: spinecaredelhi@gmail.com, spineshankar@gmail.com

Website: www.sgrh.com

Take care of your spine, and your spine will take care of you. Trust Dr. Shankar Acharya and our team to help you live without pain.

Intervertebral Discs

Between each vertebra, there are **intervertebral discs**, which act as cushions to absorb shock and prevent the bones from rubbing against each other. These discs are made up of a tough outer layer and a soft inner core, allowing flexibility and movement.

Spinal Nerves

Emerging from the spinal cord are **spinal nerves** that branch out to various parts of the body, helping you feel sensations and control movements. These nerves control your arms, legs, and organs. Any damage or compression to these nerves can cause pain, numbness, or weakness.

Common Spine Problems

As we age or face certain injuries, problems can develop in the spine, leading to pain or discomfort. Some common spine conditions include:

- **Herniated Disc:** When the disc between the vertebrae slips out of place and presses on nerves.
- Scoliosis: An abnormal sideways curvature of the spine.
- Spondylosis: Degeneration of the spinal discs, often due to aging.
- Spinal Stenosis: Narrowing of the spinal canal, which can compress nerves.
- Osteoarthritis: Wear and tear of the cartilage in the spine.

Why is Spine Health Important?

A healthy spine is crucial for overall well-being. It helps maintain posture, supports body movements, and protects the spinal cord, which controls all bodily functions. Poor spinal health can lead to chronic pain, limited mobility, and other health issues.

Tips for Maintaining a Healthy Spine

- 1. **Exercise Regularly:** Activities like walking, swimming, and stretching help keep the spine strong and flexible.
- 2. **Practice Good Posture:** Maintain a straight posture while sitting, standing, and sleeping.
- 3. Lift Correctly: Use your legs, not your back, when lifting heavy objects.
- 4. Maintain a Healthy Weight: Extra weight puts stress on the spine and discs.
- 5. Sleep on a Supportive Mattress: Ensure your mattress supports your spine's natural curve.

When to See a Spine Specialist

If you experience any of the following, it's time to consult a spine specialist like **Dr. Shankar Acharya**:

- Chronic back or neck pain
- Numbness, tingling, or weakness in your arms or legs
- Difficulty walking or balancing
- Unexplained pain or discomfort

Why Choose Dr. Shankar Acharya?

With over 30 years of experience as a spine surgeon, **Dr. Shankar Acharya** is one of the leading specialists in spine care. At **Sir Gangaram Hospital** in New Delhi, we offer advanced treatments and personalized care to help you maintain a healthy spine and improve your quality of life.

M.S. (Ortho), DNB (Ortho), FRCS (Glasgow) FRCS (Edinburgh) FRCS (Orthopaedics) (London), M.Ch. (Orthopaedics) Liverpool Spine & Deformity Fellowship, (Birmingham) U.K., Spine Fellowship Munster (Germany) Spine Fellowship (USA)

Senior Consultant & Chairman Department of Ortho Spine Surgery Professor Dept. of Orthopaedic & Spine Surgery

Contact Us

If you are experiencing spine-related problems or want to learn more about how to keep your spine healthy, please reach out to us for expert care.

Sir Gangaram Hospital Address: Room No. G-1, Ground Floor, Ortho Department, Old Rajender Nagar,

New Delhi - 110060, India

Phone: +91-11-25750000, +91-11-42254000

Email: spinecaredelhi@gmail.com, spineshankar@gmail.com

Website: www.sgrh.com

Take care of your spine today to enjoy a healthier tomorrow!





Trust of Generations

Address:- Room No. G-1, Ground Floor, Ortho Department, Old Rajender Nagar, New Delhi - 110060, India Tel. +91-11-25750000, +91-11-42254000 Timings: Pvt. OPD: 2:00 P.M. to 5:00 P.M. For Appoiments Visit: www.sgrh.com For Appointments Call:- +91-11-42254000, +91-11-25750000 For Admission, Call: +91-11-42251000-7 Email Address: spinecaredelhi@gmail.com,



Dr. Shankar Acharya's Private Clinic Address: - 21, Kailash Enclave, Ground Floor, Near Saraswati Vihar, E-Block Bus Stand, Pitampura, Delhi-10034, India Timings: 8:00 P.M. - 9:00 P.M. (Monday to Friday) For Appointments Call:- +91-98109-12174, +91-8586963525 (after 5:00 P.M.)

Official Website

www.SpineSurgeonInIndia.com